

Application No 10/521,321  
Appeal Brief dated 07/01/2009

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No.: 10/521321 Confirmation No.: 9052  
Applicant: CREUTZ, *et al.*  
Filed: 06/JAN/2005  
TC/A.U.: 1796  
Examiner: PENG, KUO LIANG  
Docket No.: SN132 PCT1  
Customer No.: 00137  
Date: 1 July 2009  
For: Silicone Foam Control Compositions

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF**

In response to the 12-23-2008 final rejection of US Application 10/521,321, and further to Appellant's Notice of Appeal dated 4-1-2009, Appellant submits this Appeal Brief.

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*Real Party in Interest*

The real party in interest in this appeal is Dow Corning Corporation, the assignee of the above application.

*Related Appeals and Interferences*

Appellants are not aware of any related appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

*Status of Claims*

Claims 1-22 were originally filed in this application. Claims 21 and 22 were canceled by a Preliminary Amendment dated January 5, 2006. Claims 6, 12, 14, 18, and 20 were canceled and Claims 23-26 were added by an Amendment dated July 23, 2007. Claims 2, 5, 7-9, 13, and 24-26 were canceled by an Amendment dated February 19, 2008. Claims 27-30 were added by an Amendment dated October 7, 2008. Claims 1, 3, 4, 10, 11, 15-17, 19, 23, and 27-30 are pending in this application and were finally rejected in the office action dated December 23, 2008. The status of claims on appeal is as follows. Claims 1, 3, 4, 10, 11, 15-17, 19, 23, and 27-30 were previously presented. Claims 1, 3, 4, 10, 11, 15-17, 19, 23, and 27-30 are pending in this application and stand rejected.

*Status of Amendments*

Claims 1 and 23 were amended in the Amendment dated October 7, 2008 to delete the phrase "glycerol triesters" and insert therefore "polyol esters containing carboxylate groups of different chain length", to insert the phrase "containing 8 to 32 carbon atoms" between "fatty alcohols" and ", fatty acids", to insert the phrase "having 8 to 32 carbon atoms" between "fatty acids" and ", or mixtures", and to add New Claims 27-30. An Amendment After Final was submitted on April 1, 2009 to delete the phrase "which are esterified by carboxylate groups" from Claims 1 and 23. The Examiner did not enter this amendment. No other amendments have

been submitted subsequent to the Final Rejection dated December 23, 2008. The appealed Claims 1, 3, 4, 10, 11, 15-17, 19, 23, and 27-30 are in the Claims Appendix of this brief.

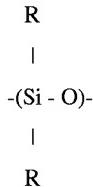
*Summary of the Claimed Subject Matter*

*Claim 1*

1. A granulated foam control composition comprising:

(i) a foam control agent comprising:

a polydiorganosiloxane fluid comprising units of the formula



where each group R, which may be the same or different, is selected from an alkyl group having 1 to 36 carbon atoms or an aryl group or aralkyl group having up to 36 carbon atoms, the mean number of carbon atoms in the groups R being at least 1.3,

a hydrophobic filler dispersed in the polydiorganosiloxane fluid; and

optionally an organosilicon resin; and

(ii) an additive composition of melting point 35 to 100°C comprising:

(A) a polyol ester selected from glycerol triesters, esters of pentaerythritol, or a mixture of polyol esters containing carboxylate groups of different chain length which are esterified by carboxylate groups each having 7 to 36 carbon atoms, wherein at least 90% of the hydroxyl groups of the glycerol triesters are esterified, and wherein at least 70% of the hydroxyl groups of the esters of pentaerythritol are esterified; and

optionally 5 to just less than 50% by weight of a component (B) selected from fatty alcohols containing 8 to 32 carbon atoms, fatty acids having 8 to 32 carbon atoms, or mixtures of monoesters and diesters of glycerol which are miscible with the polyol ester (A) and contains groups more polar than the carboxylate ester groups of the polyol ester (A) wherein the foam control agent (i) and the additive composition (ii) are supported on a particulate carrier with the proviso that a mixture of (i) and (ii) is deposited onto the particulate carrier in non-aqueous liquid form.

This claim is mapped to the specification as follows;

page 3, paragraph [0010], lines 14-24,

page 7, line 1, paragraph [0019] to page 9, line 31, paragraph [0026],

page 10 lines 14-24, paragraph [0030],

page 11, lines 14-22, paragraph [0033],

page 13, lines 9-17, paragraph [0038], and

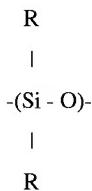
page 14, lines 1-3, paragraph [0040].

*Claim 23*

23. A method of manufacturing a granulated foam control composition comprising:  
mixing:

(i) a foam control agent comprising:

a polydiorganosiloxane fluid comprising units of the formula



where each group R, which may be the same or different, is selected from an alkyl group having 1 to 36 carbon atoms or an aryl group or aralkyl group having up to 36 carbon atoms, the mean number of carbon atoms in the groups R being at least 1.3;

a hydrophobic filler dispersed in the polydiorganosiloxane fluid; and  
optionally an organosilicon resin;

and

(ii) an additive composition of melting point 35 to 100°C comprising:

(A) a polyol ester selected from glycerol triesters, esters of pentaerythritol, or a mixture of polyol esters containing carboxylate groups of different chain length which are esterified by carboxylate groups each having 7 to 36 carbon atoms, wherein at least 90% of the hydroxyl groups of the glycerol triesters are esterified, and wherein at least 70% of the hydroxyl groups of the esters of pentaerythritol are esterified; and

optionally 5 to just less than 50% by weight of a component (B) selected from fatty alcohols containing 8 to 32 carbon atoms, fatty acids having 8 to 36~~2~~ carbon atoms, or mixtures of monoesters and diesters of glycerol which are miscible with the polyol ester (A) and contains groups more polar than the carboxylate ester groups of the polyol ester (A);  
and

depositing the mixture of (i) and (ii) on a particulate carrier with the proviso that the mixture of (i) and (ii) is in non-aqueous liquid form prior to depositing it onto the particulate carrier.

This claim is mapped to the specification as follows;

page 3, paragraph [0010], lines 14-24,

page 7, line 1, paragraph [0019] to page 9, line 31, paragraph [0026],

page 10 lines 14-24, paragraph [0030],

page 11, lines 14-22, paragraph [0033],

page 12, line 27, paragraph [0037] to page 13, line 1,

page 13, lines 9-17, paragraph [0038], and

page 14, lines 1-3, paragraph [0040].

*Grounds of Rejection to be Reviewed on Appeal*

Claims 1, 3-4, 10-11, 15-17, 19, 23, and 27-30 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Appellants regard as their invention.

Claims 1, 3-4, 10-11, 15-17, 19, 23, and 27-30 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1, 3-4, 10-11, 15-17, 19, 23, and 27-30 stand rejected under 35 U.S.C. §102(a) as being anticipated by Dickinson (GB 1 523957).

Claims 1, 3-4, 10-11, 15-17, 19, 27, and 29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schmid (U.S. Patent No. 6,610,752) in view of L'Hostis (EP1075863).

Argument

*35 U.S.C. 112*

The Examiner rejected Claims 1, 3-4, 10-11, 15-17, 19, 23, and 27-30 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Appellants regard as their invention.

The Examiner rejected Claims 1, 3-4, 10-11, 15-17, 19, 23, and 27-30 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

*Claims 1, 3-4, 10-11, 15-17, 19, 23, and 27-30 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Appellants regard as their invention.*

The Examiner states that in Claim 1 (line 10 from bottom) and Claim 23 (line 10 from bottom), “which are esterified by carboxylate groups” causes confusion because carboxylate groups are ester groups, per se, and cannot be further esterified.

Appellants submitted an Amendment after Final on April 1, 2009 to deleted the phrase “which are esterified by carboxylate groups” from Claims 1 and 23. Support for this amendment is found in paragraph 20 (alternatively page 7, lines 20-30) of Appellants’ specification. This Amendment was not entered by the Examiner. Appellants believe that Claims 1 and 23, if amended in accordance with the Amendment after Final, would in fact particularly point out and distinctly claim the subject matter that they regard as their invention. Appellants would be willing to amend the Claims in accordance with the suggestion of the Examiner. Therefore Appellants respectfully request the Board to remand this Ground of Rejection to the Examiner

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for further consideration of Appellants suggested amendment contained in the Amendment after Final submitted on April 1, 2009.

*Claims 1, 3-4, 10-11, 15-17, 19, 23, and 27-30 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.*

The Examiner states that in Claim 1 (line 6), the Examiner is not able to find “fatty acids having 8 to **32** carbon atoms”.

Appellants submitted an Amendment after Final on April 1, 2009 to recite “fatty acids having 8 to 36 carbon atoms”. Support for this amendment is found in paragraph 25 (at page 9, lines 18-20) of Appellants’ specification. This Amendment was not entered by the Examiner. Therefore, the Appellants believe that Claims 1 and 23, if amended in accordance with the Amendment after Final, would in fact contain subject matter which was described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Appellants would be willing to amend the Claims in accordance with the suggestion of the Examiner. Therefore Appellants respectfully request the Board to remand this Ground of Rejection to the Examiner for further consideration of Appellants suggested amendment contained in the Amendment after Final submitted on April 1, 2009.

*35 U.S.C. §102(a)*

*Claims 1, 3-4, 10-11, 15-17, 19, 23, and 27-30 stand rejected under 35 U.S.C. §102(a) as being anticipated by Dickinson (GB 1 523957).*

This Ground of Rejection by the Examiner was maintained. The Examiner states that Appellants arguments have been fully considered but were not found persuasive. The Examiner stated that this Ground of Rejection would be removed if the Grounds of Rejections under 35 U.S.C. 112 were properly overcome.

Appellants believe the rejections under 35 U.S.C. 112 above would be properly overcome by Appellants if the Amendment after Final had been entered by the Examiner. As stated above, Appellants would be willing to amend the Claims in accordance with the suggestion of the Examiner. Therefore Appellants respectfully request the Board to remand this Ground of Rejection to the Examiner for further consideration of Appellants suggested amendment contained in the Amendment after Final submitted on April 1, 2009.

*35 U.S.C. 103(a)*

*Claims 1, 3-4, 10-11, 15-17, 19, 27, and 29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schmid (U.S. Patent No. 6,610,752) in view of L'Hostis (EP1075863).*

The Examiner stated that it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize L'Hostis polyorganosiloxane in Schmid's composition with expected success. Especially since L'Hostis was in the same field as that of Schmid's endeavor. The Examiner also stated that Schmid teaches depositing the polydiorganosiloxane, polyol ester, etc., in aqueous liquid form onto the particular carrier. and that the water is eventually removed. The Examiner therefore argued that the prior art's granulated foam control composition was the same as the claimed granulated foam control

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composition where the polydiorganosiloxane, polyol ester, etc. was used in non-aqueous liquid form.

The Examiner then stated that the Affidavit (attached to this Appeal Brief in the *Evidence Appendix*) filed by Appellants was not persuasive because it was not commensurate with the scope of at least Claim 1. The Examiner argues that the Affidavit made a comparison between the composition according to the present invention and that based on the disclosure of Schmid alone. The Examiner's position was that the composition of the present invention should have adequately been compared against the disclosure of Schmid where Schmid's polydiorganosiloxane fluid is replaced with L'Hostis polydiorganosiloxane fluid.

First, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure MPEP §2143. A prior art reference that "teaches away" from the claimed invention is a significant factor to be considered in determining obviousness MPEP §2145 (X) (D). It is improper to combine references where the references teach away from their combination (MPEP §2145 (X) (D)). If the examiner believes there is factual support for rejecting the claimed invention under 35 U.S.C. §103, the examiner **must** then consider any evidence supporting the patentability of the claimed invention, such as any evidence in the specification or any other evidence submitted by the Applicant MPEP §2142.

Furthermore, by the Examiner's own admission, Schmid does not disclose that a mixture of foam control agent (i) and additive composition (ii) are deposited onto the particulate carrier in "non-aqueous liquid form" as currently claimed in independent claims 1 and 23. In fact, Schmid teaches away from depositing a mixture of foam control agent (i) and additive composition (ii)

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by teaching that their foam control agent and polyol ester are deposited in aqueous liquid form (i.e. in the form of an emulsion) as admitted above by the Examiner.

Second, Appellants disagree with the Examiner's statements above. First, the Examiner states the composition of the present invention should have adequately been compared against the disclosure of Schmid where Schmid's polydiorganosiloxane fluid is replaced with L'Hostis polydiorganosiloxane fluid. The Board is directed to page 2 of Appellants' Affidavit. In both the Invention of Serial No. SN132 (U.S. Patent Serial No. 10/521,321) and the Comparison Example prepared according to the teachings of Schmid et al., the same foam control agent was used, namely silicone foam control agent FC1. Thus there was in fact an apples to apples comparison of the instant invention versus the disclosure of Schmid et al. Therefore since the same silicone foam control agent (FC1) was used in the comparison between the instant invention and Schmid et al., Appellants believe that the Affidavit was in fact commensurate with the scope of the Claims as drafted. Furthermore, it is Appellants' position that even if Schmid and L'Hostis are combined the instant invention is not arrived at and this renders the argument made by the Examiner moot.

Furthermore, Appellants tested against the "closest single prior art reference cited by the Examiner". An Applicant is only required to compare his invention to the closest prior art (see *In re Baxter Trevenol Labs.*, 952 F. 2d 388, 392, 21 U.S.P.Q. 2d 1281, 1285 (Fed. Cir. 1991); *In re Holladay*, 584 F. 2d 384, 386, 199 U.S.P.Q. 516, 518 (C.C.P.A. 1978); and *In re Merchant*, 575 F.2d 865, 869, 197 U.S.P.Q. 785, 788 (C.C.P.A. 1978).

"Given the enormous variety of technologies and claimed subject matter, no all-encompassing principle or test can be delineated for determining the closest prior art. However, an almost self-evident guideline would appear effective in most cases. A comparison of the claimed invention with the disclosure of each cited reference to determine the number of claim limitations in common with each reference to determine the number of claim limitations in common with each reference, bearing in mind the relative importance of particular limitations, will usually yield *the closest single prior art reference* (emphasis added)." *In re Merchant*, 575 F. 2d at 868, 197. Generally, an Applicant need not test compounds taught in each and every

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reference. See In re Payne, 606 F.2d at 316, 203 U.S.P.Q. at 256. Appellants are not required to test the invention against the invention.

Appellants believe they tested against the embodiment that is closest to the present invention. In the attached 132 Affidavit the inventors ran a comparison test, comparing the performance in a powdered detergent formulation of a granulated foam control composition where the foam control agent was mixed with an additive composition and then deposited onto a particulate carrier (a composition as instantly claimed) versus a composition where a granulated foam control composition was emulsified, and then the foam control composition and additive composition were separately deposited onto a particulate carrier (i.e. a granulated foam control composition prepared according to the teachings of Schmid). It is clear from the results in the attached 132 Affidavit that the compositions of the instant invention produced far less foam than the composition prepared according to the teachings of Schmid.

It is the opinion of Appellants that the Examiner has not established a *prima facie* case of obviousness, however, in the event that the Board agrees with the Examiner that a *prima facie* case of obviousness has been established, it is clear from the attached Affidavit that Appellants have successfully rebutted any *prima facie* case of obviousness established by the Examiner. Appellants believe that the rejection under 35 U.S.C. §103(a) has been overcome.

Based on the above arguments, the Appellants respectfully request that the Examiner's rejection of Claims 1, 3-4, 10-11, 15-17, 19, 23, and 27-30 under 35 U.S.C. §103(a) in the present application be reversed.

Respectfully Submitted,  
Dow Corning Corporation

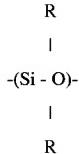
/Timothy J. Troy/  
Timothy Troy  
Reg. No. 36,951  
Tel: 989-496-5533

*Claims Appendix*

1. (*Rejected*) A granulated foam control composition comprising:

(i) a foam control agent comprising:

a polydiorganosiloxane fluid comprising units of the formula



where each group R, which may be the same or different, is selected from an alkyl group having 1 to 36 carbon atoms or an aryl group or aralkyl group having up to 36 carbon atoms, the mean number of carbon atoms in the groups R being at least 1.3,

a hydrophobic filler dispersed in the polydiorganosiloxane fluid; and

optionally an organosilicon resin; and

(ii) an additive composition of melting point 35 to 100°C comprising:

(A) a polyol ester selected from glycerol triesters, esters of pentaerythritol, or a mixture of polyol esters containing carboxylate groups of different chain length which are esterified by carboxylate groups each having 7 to 36 carbon atoms, wherein at least 90% of the hydroxyl groups of the glycerol triesters are esterified, and wherein at least 70% of the hydroxyl groups of the esters of pentaerythritol are esterified; and

optionally 5 to just less than 50% by weight of a component (B) selected from fatty alcohols containing 8 to 32 carbon atoms, fatty acids having 8 to 36 carbon atoms, or mixtures of monoesters and diesters of glycerol which are miscible with the polyol ester (A) and contains groups more polar than the carboxylate ester groups of the polyol ester (A) wherein the foam control agent (i) and the additive composition (ii) are supported on a particulate carrier with the proviso that a mixture of (i) and (ii) is deposited onto the particulate carrier in non-aqueous liquid form.

2. (Canceled)

3. (*Rejected*) A granulated foam control composition according to Claim 1, characterized in that the glycerol triester (A) is esterified by carboxylate groups each having 14 to 22 carbon atoms.

4. (*Rejected*) A foam control composition according to Claim 3, characterized in that glycerol tripalmitate forms at least 30% by weight of the glycerol triester (A).

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5. (*Canceled*)

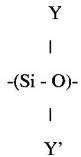
6. (*Canceled*)

7. (*Canceled*)

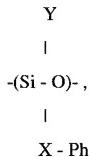
8. (*Canceled*)

9. (*Canceled*)

10. (*Rejected*) A granulated foam control composition according to Claim 1, characterized in that the polysiloxane fluid is a polysiloxane comprising at least 10% diorganosiloxane units of the formula



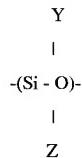
and up to 90% diorganosiloxane units of the formula



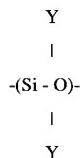
wherein X denotes a divalent aliphatic organic group bonded to silicon through a carbon atom; Ph denotes an aromatic group; Y denotes an alkyl group having 1 to 4 carbon atoms; and Y' denotes an aliphatic hydrocarbon group having 1 to 24 carbon atoms with the proviso that the mean number of carbon atoms in the groups R is at least 1.3.

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11. (*Rejected*) A granulated foam control composition according to Claim 1, characterized in that the polysiloxane fluid is a polysiloxane comprising 50-100% diorganosiloxane units of the formula



and optionally up to 50% diorganosiloxane units of the formula



wherein Y denotes an alkyl group having 1 to 4 carbon atoms and Z denotes an alkyl group having 6 to 18 carbon atoms.

12. (Cancelled)

13. (*Cancelled*)

14. (*Cancelled*)

15. (*Rejected*) A granulated foam control composition according to claim 1, characterized in that the organosilicon resin is a siloxane resin consisting of monovalent trihydrocarbonsiloxy (M) groups of the formula  $R''_3SiO_{1/2}$  and tetrafunctional (Q) groups  $SiO_{4/2}$  wherein R'' denotes an alkyl group and the number ratio of M groups to Q groups is in the range 0.4:1 to 1.1:1.

16. (*Rejected*) A granulated foam control composition according to Claim 1, characterized in that the hydrophobic filler has an average particle size of from 0.5 to 30 $\mu$ m.

17. (*Rejected*) A granulated foam control composition according to Claim 1, characterized in that the additive composition is present at 20-200% by weight based on the polysiloxane fluid.

18. (*Canceled*)

19. (*Rejected*) A granulated foam control agent according to Claim 1, characterized in that a water-soluble or water-dispersible binder is also supported on the particulate carrier.

20. (*Canceled*)

21. (*Canceled*)

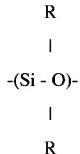
22. (*Canceled*)

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23. (*Rejected*) A method of manufacturing a granulated foam control composition comprising:  
mixing:

(i) a foam control agent comprising:

a polydiorganosiloxane fluid comprising units of the formula



where each group R, which may be the same or different, is selected from an alkyl group having 1 to 36 carbon atoms or an aryl group or aralkyl group having up to 36 carbon atoms, the mean number of carbon atoms in the groups R being at least 1.3;

a hydrophobic filler dispersed in the polydiorganosiloxane fluid; and  
optionally an organosilicon resin;

and

(ii) an additive composition of melting point 35 to 100°C comprising:

(A) a polyol ester selected from glycerol triesters, esters of pentaerythritol, or a mixture of polyol esters containing carboxylate groups of different chain length which are esterified by carboxylate groups each having 7 to 36 carbon atoms, wherein at least 90% of the hydroxyl groups of the glycerol triesters are esterified, and wherein at least 70% of the hydroxyl groups of the esters of pentaerythritol are esterified; and

optionally 5 to just less than 50% by weight of a component (B) selected from fatty alcohols containing 8 to 32 carbon atoms, fatty acids having 8 to 36<sup>2</sup> carbon atoms, or mixtures of monoesters and diesters of glycerol which are miscible with the polyol ester (A) and contains groups more polar than the carboxylate ester groups of the polyol ester (A);

and

depositing the mixture of (i) and (ii) on a particulate carrier with the proviso that the mixture of (i) and (ii) is in non-aqueous liquid form prior to depositing it onto the particulate carrier.

24. (*Canceled*)

25. (*Canceled*)

26. (*Canceled*)

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27. (*Rejected*) A granulated foam control composition according to Claim 1, wherein the glycerol triester is selected from glycerol tripalmitate, glycerol tristearate, or glycerol triesters of saturated carboxylic acids having 20 or 22 carbon atoms.

28. (*Rejected*) A method of manufacturing a granulated foam control composition according to Claim 23, wherein the glycerol triester is selected from glycerol tripalmitate, glycerol tristearate, or glycerol triesters of saturated carboxylic acids having 20 or 22 carbon atoms.

29. (*Rejected*) A granulated foam control composition according to Claim 1, wherein the mixture of polyol esters containing carboxylate groups of different chain length is selected from a mixture of glyceryl tristearate and glyceryl tripalmitate, a mixture of glyceryl tristearate and glycerol triesters of saturated carboxylic acids having 20 or 22 carbon atoms, or ethylene glycol distearate and glycerol triesters of saturated carboxylic acids having 20 or 22 carbon atoms.

30. (*Rejected*) A method of manufacturing a granulated foam control composition according to Claim 23, wherein the mixture of polyol esters containing carboxylate groups of different chain length is selected from a mixture of glyceryl tristearate and glyceryl tripalmitate, a mixture of glyceryl tristearate and glycerol triesters of saturated carboxylic acids having 20 or 22 carbon atoms, or ethylene glycol distearate and glycerol triesters of saturated carboxylic acids having 20 or 22 carbon atoms.

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*Evidence Appendix*

The Affidavit under 37 C.F.R. § 1.132 attached below and filed on October 7, 2008, was entered by the Examiner and was acknowledged by the Examiner on Page 2 of the Final Rejection dated December 23, 2008 (Part of Paper No. 20081220).

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Appl. No.: 10/521321 Confirmation No.: 9052  
Applicant: CREUTZ, *et al.*  
Filed: 06/JAN/2005  
TC/A.U.: 1796  
Examiner: PENG, KUO LIANG  
Docket No.: SN132 PCT1  
Customer No.: 00137  
For: Silicone Foam Control Compositions

Commissioner for Patents  
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AFFIDAVIT UNDER 37 C.F.R. §1.132

Sir:

I, Serge Creutz, being duly sworn, say that:

1. I received a PhD degree in Polymer Sciences from University of Liège in Belgium in 2002.
2. I have been employed by the Dow Corning Corporation at Midland, Michigan since 1996, during which time I have been engaged in research and development activities in the fields of Antifoam and Granulated Products. Prior to this, I was employed as PhD student. I am a co-inventor of 11 U.S. patents and have authored/co-authored 14 papers and presentations at international conferences.
3. I am familiar with the above identified patent application.

4. Under my supervision, the experiments below were performed to distinguish the invention of SNI32 (U.S. Patent Serial No. 10/521321) from Schmid et al. (U.S. Patent No. 6,610,752).

Invention of SN132

4% by weight treated precipitated silica (Sipermat® D10) and 2% R972 partially hydrophobic silica (both supplied by Evonik) were dispersed in 87.3% polydiorganosiloxane fluid having a degree of polymerisation of 60 and comprising 80 mole% methyl ethyl siloxane groups, 20 mole% methyl 2-phenylpropyl (derived from  $\alpha$ -methylstyrene) siloxane groups and 1 mole% divinyl crosslinking groups. The mean number of carbon atoms in the groups R in the polydiorganosiloxane is 2.2. 6.7% by weight of a 60% by weight solution of an organosiloxane resin having trimethyl siloxane units and SiO<sub>2</sub> units in a M/Q ratio of 0.65/1 in octyl stearate was added. The mixture was homogenised through a high shear mixer to form a foam control agent hereinafter denoted FC1.

15 parts by weight of the silicone foam control agent FC1 was mixed at 80°C with 6 parts of Synchrowax HRC glyceryl triester, 0.75 part of Softenol 3118 (glyceryl tristearate) and 0.75 part of Dynasan 116 (glyceryl tripalmitate) to form an additive composition. The molten blend (i.e. the additive composition) was then sprayed onto 77.5 parts by weight of a starch powder carrier in a granulating mixer to produce a supported foam control composition.

Comparison Example prepared according to the teachings of Schmid et al.

The silicone foam control agent FC1 was emulsified. The emulsion weight composition was 19.78 parts of FC1, 83.34 parts of demineralised water, 1.77 part of volpo S2 (steareth-2), 1.77 part of volpo S20 (steareth-20), 0.22 part of xanthan gum (Keltrol RD (Trade Mark)), 0.66 part of hydroxyethylcellulose (Natrosol 250 LR (Trade Mark)), 0.05 part of sorbic acid, 0.09 part of benzoic acid and 0.22 part of a 10% solution of sulphuric acid.

3.36 parts of Synchrowax HRC glyceryl triester, 0.43 part of Softenol 3118 (glyceryl tristearate), 0.43 part of Dynasan 116 (glyceryl tripalmitate) were mixed at 80°C (i.e. the

additive composition) and sprayed onto 85.31 parts by weight of a starch powder carrier in a granulating mixer.

Subsequently, 8.43 parts by weight of the emulsified FC1 prepared above was sprayed onto the blend of starch powder carrier and additive composition. This resulting wet powder was then dried in a fluidized bed at 60°C during 20 minutes to remove the water coming from the aqueous emulsion in order to produce a supported foam control composition

The two foam control agents were tested in a powder detergent formulation which comprised 327 parts by weight zeolite, 95 parts of a 55% aqueous solution of sodium dodecylbenzenesulphonate, 39 parts ethoxylated lauryl stearyl alcohol, 39 parts sodium sulphate, 125 parts sodium carbonate and 125 parts sodium perborate. Each foam control composition was used at a concentration of 0.2% by weight FC1 based on detergent composition. The evaluation was made in a Miele 934 front loading washing machine, loaded with 16 cotton towels, 90g of the detergent formulation, 17 litres of water of 9 degree German hardness using a wash cycle of 42 minutes and 4 rinses R1 to R4 at 40°C. The foam height was measured every 5 minutes during the wash cycle and recorded, where the value indicated is the foam height in the washing machine, with 100% referring to the fact that the window of the machine was full of foam, 50%, that is was half full of foam.

Results:

The maximum foam height observed during the wash was:

SN132 Invention : 30 \_\_

Foam Control Agent prepared according to the teachings of Schmid et al.: 70 \_\_

5. Thus it can be seen from the Comparison Example above, that the invention of SN 132 is superior in controlling foam versus a composition prepared according to the disclosure of Schmidt et al. This clearly shows the criticality of having the mixture of the foam control agent and additive composition having a melting point of 35 to 100°C be deposited onto the particulate carrier in non-aqueous liquid form.

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Application No 10/521,321  
Appeal Brief dated 07/01/2009

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6. I declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true. I also declare that, at the time these statements were made, I knew that willful false statements and the like are punishable by a fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that willful false statements may jeopardize the validity of the application, or any patent issuing from it.



Date: 7/10/2008

Application No 10/521,321  
Appeal Brief dated 07/01/2009

*Related Proceedings Appendix*

None